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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,603	11/12/2003	Stephen L. Warren	1195.284US1	5852

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EXAMINER	
SHEIKH, HUMERA N	
ART UNIT	**PAPER NUMBER**
1618	
MAIL DATE	**DELIVERY MODE**
04/01/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/706,603	WARREN ET AL.	
	Examiner	Art Unit	
	Humera N. Sheikh	1618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 December 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17,19 and 21-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17,19 and 21-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of the Application

Receipt of the Response to Non-Final Office Action, the Amendment and Applicant's Arguments/Remarks, all filed 12/27/07 is acknowledged.

Applicant has overcome the following objection(s) and/or rejection(s) by virtue of the amendment to the claims: (1) The claim objection to claim 13 (typographical error) has been withdrawn based on Applicant's amendment correcting claim 13.

Claims 1-17, 19 and 21-23 are pending in this action. Claims 1, 13 and 19 have been amended. New claims 21-23 have been added. Claims 18 and 20 have been cancelled herein. Claims 1-17, 19 and 21-23 remain rejected.

* * * * *

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-17, 19 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tapolsky *et al.* (U.S. Pat. No. 5,800,832) in view of Bowman *et al.* (U.S. Pat. No. 6,372,245) OR Wong *et al.* (U.S. Pat. No. 6,331,313).

The instant invention is drawn to a method for locally delivering a pharmaceutical via an ocular surface of a mammal, the method comprising contacting the ocular surface of the mammal with a mucoadhesive film that comprises: a water-soluble bioadhesive layer to be placed in contact with an ocular surface, the bioadhesive layer including one or more bioadhesive polymers and/or one or more film-forming, water-soluble polymers; a water-soluble non-adhesive backing layer that comprises one or more water-soluble, film-forming, pharmaceutically acceptable polymers; and one or more pharmaceuticals associated with the bioadhesive layer, associated with the non-adhesive layer, or associated with both the bioadhesive and non-adhesive layers; wherein the mucoadhesive film is compatible with ocular surfaces; the mucoadhesive film adheres to ocular surfaces; the mucoadhesive film is flexible; and the mucoadhesive film is water-soluble, biodegradable, and bioerodible in tear fluids.

Tapolsky *et al.* ('832) teach a water-soluble, bioerodible pharmaceutical delivery device for application to mucosal surfaces. Methods for treating mucosal surfaces by applying the bilayer film to the treatment site for drug delivery and protection is also disclosed. The device comprises an adhesive layer and a non-adhesive backing layer and the pharmaceutical may be provided in either or both layers. Upon application, the device adheres to the mucosal surface, providing drug delivery and protection to the treatment site (see Abstract). The bioerodible pharmaceutical delivery device adheres to mucosal surfaces for the localized delivery of pharmaceutical compounds (col. 1, lines 1-23); (col. 3, lines 45-48).

The delivery device for application to mucosal surfaces provides protection of and delivery of pharmaceutical to the site of application, surrounding tissues and other bodily fluids, having an effect on residence time, with minimal discomfort and ease of use (col. 3, lines 23-28).

In one embodiment, the pharmaceutical delivery device comprises a bilayer film disk having an adhesive layer and a backing layer, both water-soluble, having the pharmaceutical in either or both layers (col. 3, lines 28-33). The adhesive layer comprises a film former such as hydroxypropylmethyl cellulose (HPMC), hydroxypropyl cellulose (HPC), or hydroxylethyl methylcellulose (HEMC), alone or in combination and a bioadhesive polymer such as polyacrylic acid (PAA), polyvinyl pyrrolidone (PVP) or sodium carboxymethyl cellulose, alone or in combination. The non-adhesive backing layer comprises polymers such as HPMC (col. 3, lines 29-48). The bioadhesive polymers have good and instantaneous mucoadhesive properties in a dry, film state (col. 5, lines 38-61).

According to Tapolsky *et al.*, the water-soluble bioerodible device finds particular use in the localized treatment of body tissues, diseases or wounds which may have moist surfaces, such as the mouth and other types of mucosal surfaces (col. 3, lines 51-58). It is taught that the device is an appropriate vehicle for the local as well as systemic delivery of pharmaceutical, given its thinner, flexible form (col. 4, lines 46-50).

The thickness of the device ranges from 0.05 mm to 1 mm and more preferably, from 0.1 to 0.5 mm (col. 8, lines 13-20). This range meets Applicant's claimed range of between about 0.1 mm to about 0.5 mm (instant claim 14).

Pharmaceuticals are incorporated in the device and comprise 0.001 to 30% by weight of the device and more preferably between 0.005 and 20% by weight (col. 8, lines 1-5). This range meets Applicant's claimed range of between about 0.005 and 20% by weight (instant claim 13).

Tapolsky *et al.* do not teach antiglaucoma agents.

Bowman *et al.* ('245) teach controlled release medicament systems for delivery of pharmaceutical drugs for the treatment of ocular conditions, comprising a bioerodible polymer, whereby suitable medicaments that can be delivered include antiglaucoma agents (see col. 9, lines 45-54) and Abstract. Specific active agents are disclosed at column 9, line 55 – col. 11, line 31.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate active agents, such as the antiglaucoma agents of Bowman *et al.* within the delivery device of Tapolsky *et al.* One of ordinary skill in the art would be motivated to do so with a reasonable expectation of success because Bowman *et al.* teach controlled release systems that are beneficial for treating conditions of the eye and teach that effective and useful active agents include antiglaucoma agents. The expected result would be an enhanced method of drug delivery for effectively combating infections of the eye.

This rejection has been maintained and applied to new claims 21-23.

Bowman teaches suitable antiglaucoma agents, including epinephrine, which is disclosed at column 9, line 60.

* * * * *

The teachings of Tapolsky *et al.* are discussed above. Tapolsky *et al.* do not teach antiglaucoma agents.

Wong *et al.* ('313) teach biocompatible controlled release delivery devices that are used to deliver active agents, such as antiglaucoma agents (col. 1, line 55 – col. 2, line 3). The delivery can be localized or systemic (col. 3, lines 41-50). Specific active agents are disclosed at column 10, line 55 – col. 12, line 5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate active agents, such as the antiglaucoma agents of Wong *et al.* within the delivery device of Tapolsky *et al.* One of ordinary skill in the art would be motivated to do so with a reasonable expectation of success because Wong *et al.* teach controlled release delivery devices, useful for treating eye disorders (i.e., blindness) and teach that effective and useful active agents in their device include antiglaucoma agents. The expected result would be an improved method for delivering drugs to mucosal surfaces, such as ocular surfaces, for reducing infections and disorders of the eye.

This rejection has been maintained and applied to new claims 21-23.

Wong teaches suitable antiglaucoma agents, including epinephrine, which is disclosed at column 11, line 18.

* * * * *

Response to Arguments

Applicant's arguments filed 12/27/07 have been fully considered and were found partially persuasive.

- **Claim Objection:**

Applicant argued, "Claim 13 has been amended to recite 'of between about'.

This argument was persuasive. The claim objection has been withdrawn, based on the correction to claim 13.

- **35 U.S.C. 103(a) Rejection:**

Applicant argued, "Bowman and Wong do not contain any suggestions, or provide any incentive, that would motivated the skilled artisan to modify the bioerodible pharmaceutical delivery system described by Tapolsky in a manner necessary to arrive at the method for locally delivering a pharmaceutical via an ocular surface by contacting the ocular surface with a mucoadhesive film claimed by Applicant."

Applicant's arguments have been fully considered, but were not persuasive. The teachings of Tapolsky are delineated above. The secondary references of Bowman and Wong were further relied upon to demonstrate the teaching that it is well-known to incorporate active agents intended for application to the eye, particularly antiglaucoma agents, as taught by either the Bowman or Wong references. While the reference formulations are directed to eye drops (Bowman) and an implant (Wong), the reference nonetheless remedies the deficiency of Tapolsky in that the secondary references demonstrate the use of antiglaucoma agents, for use in the same art area, to achieve beneficial results. Moreover, the Tapolsky reference initially teaches a mucadhesive, locally-acting drug delivery system that is water soluble and bioerodible for direct application to mucosal surfaces. Thus, the primary reference vividly teaches

Applicant's instant method and is only devoid of the instant active agent. The issue here is whether the secondary references suggest the benefits of employing agents, such as antiglaucoma agents, for use on mucosal surfaces, which clearly it does. Thus, ample motivation has been provided by the Bowman and Wong references.

With regards to newly added claims 21-23, Bowman teaches the use of antiglaucoma agents, such as epinephrine, disclosed at column 9, line 60. Wong also teaches the use of antiglaucoma agents, such as epinephrine, disclosed at column 11, line 18.

Applicant argued, "The disclosure of Bowman teaches away from any combination of the Tapolsky patent with the Bowman or the Wong patent. The Bowman patent states that gelatin lamellae or other films or sheets, ocular inserts and non-aqueous suspensions and emulsions all can cause immediate pain and continuing discomfort and can also interfere with vision. Accordingly, Bowman teaches that using the Tapolsky system, even with a glaucoma agent of Bowman or Wong, would likely result in immediate pain, continuing discomfort and interference with vision."

Applicant's arguments have been considered, but were not found persuasive. The fact that the Bowman patent prefers "eye drops" over other drug delivery forms, such as films or ocular inserts, does not deter one of ordinary skill in the art from using the non-preferred drug delivery forms. Moreover, while the particular drug delivery devices (films or ocular inserts versus eye drops) utilized may be different, the devices used are, nonetheless, employed for the same or related field of endeavor, such as application to mucosal tissues. Furthermore, preferred as well as non-preferred teachings are taken into consideration in determining patentability under 35 U.S.C. 103. The art, in combination, suggests the same ingredients, being used in the same

art area to achieve beneficial results, the Applicant providing no showing of unexpected or superior results in the method presently claimed. The Bowman reference vividly teaches the benefits associated with the use of active agents, such as antiglaucoma agents for mucosal application, albeit, in the form of eye drops.

For these reasons, the rejections of record have been maintained.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

--No claims are allowed at this time.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Humera N. Sheikh whose telephone number is (571) 272-0604.

The examiner can normally be reached on Monday, Tuesday, Thursday and Friday during regular business hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Hartley, can be reached on (571) 272-0616. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Humera N. Sheikh/

Primary Examiner, Art Unit 1618